

A NEW GENUS AND TWO NEW SPECIES OF ARMORED SCALES FROM  
MEXICO (HOMOPTERA: DIASPIDIDAE)

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*Abstract.*—A new genus *Selenaspidopsis*, and two new species, *S. browni* and *S. mexicana*, are described from Mexico. The genus is differentiated from the other genera in the Aspidiotini with pronounced marginal constrictions of the thorax.

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A new genus, *Selenaspidopsis*, and two new species, *S. browni* and *S. mexicana*, are described from material intercepted at agricultural quarantine on *Chamaedorea* sp. (Arecaceae) leaves from the states of Chiapas and Veracruz, Mexico. The two species were originally reported in the "Lists of Intercepted Plant Pests" (Plant Protection and Quarantine 1979: 342, 490; 1980: 70; 1981: 66; 1982: 87) as members of the genus *Pseudoselenaspidus* Fonseca (1962: 26), which is currently known only from the type species, *P. inermis* Fonseca, from foliage of an unknown plant collected near São Paulo, Brazil. The new genus is differentiated from other genera in the Aspidiotini with pronounced marginal constrictions of the thorax.

The holotypes are illustrated exactly as observed on the slides. Because the holotypes are not mounted precisely dorso-ventrally, some marginal morphological characters are illustrated dorsally or ventrally on the head and thorax. The correct positions of these characters are given in the descriptions. On the venter, the submedial row of minute setae extends posteriorly aligned with the posterior spiracle; the sublateral row lies between the submedial row and the submargin of abdomen. Unless specifically stated, quantitative descriptions are for one-half of the body. Numerical values are given first for the holotype followed in parentheses by values based on 10 paratypes. Numerical values for both sides of the holotypes are given when their values differ.

Abbreviations for the depositories of types: BM (British Museum [Natural History], London); CDA (California Department of Food and Agriculture, Sacramento); FSCA (Florida State Collection of Arthropods, Gainesville); HUS (Faculty of Agriculture, Hokkaido University, Sapporo); MNC (Museo de Historia Natural de la Ciudad de Mexico, Mexico City); MNH (Museum National d'histoire du Naturelle, Paris); UCD (University of California, Davis); USNM (U.S. National Museum of Natural History, Washington, D.C.); and VPI (Virginia Polytechnic Institute and State University, Blacksburg).

*Selenaspidopsis* Nakahara, NEW GENUS

*Type species: Selenaspidopsis browni* Nakahara, NEW SPECIES.

*Etymology.*—Gender feminine; derived from combining the generic name, *Se-*

*lenaspidus*, with Greek suffix, *-opsis*, which means: having the appearance of *Selenaspidus*.

Generic diagnosis.—Diaspididae belonging to the Aspidiotini. Adult female body becoming strongly sclerotized with advancing age, body anterior of abdominal segment 2 more strongly sclerotized than rest of abdomen; intersegmental lines strongly indicated, abdominal segment 1 with intrasegmental line. Body longer than wide; pronounced marginal constriction between prothorax and mesothorax differentiates body into semilunar prosoma and somewhat turbinate postsoma, constriction less pronounced in young adults; anterior margin of head broadly rounded, straight or slightly concave. Antenna small tubercle with 1 long seta. Thoracic spiracles without paraspiracular pores. Venter with minute setae in submedial row, 1 each on abdominal segment 1–5 and mesad of perivulvar pores; in sublateral row, 1 each on segments 1 and 2, 1 pair each on segments 3–5 and mesad of perivulvar pores, occasionally 1 seta of pair missing on 1 or 2 segments.

Pygidium with 3 pairs of well-developed unilobular lobes, usually slightly constricted at base, lateral margin with 1 notch or entire, rounded apically; median lobes largest, often with small notch on mesal margin. Short paraphyses at mesal angle of lobes 2 and 3. Plates fringed apically, well-developed, slightly longer than lobes, 2 between median lobes, 2 between median lobe and lobe 2, 3 between lobes 2 and 3, anterior to lobe 3 in series of 5–9 broad plates becoming shorter anteriorly, terminating in series of short, spinelike processes; plates with long microducts. Dorsal macroducts mainly in 3–4 longitudinal rows, few on margin and submargin. Dorso-central reticulations absent. Perivulvar pores in 1–3 lateral groups, occasionally few present anterior to lateral pores.

Discussion.—Pronounced thoracic constrictions occur in some genera in the *Selenaspidus* complex. Mamet (1958: 362), in his review of the complex, treated the different positions of the thoracic constrictions as generic characters. The new genus is closely related to *Pseudoselenaspidus* and differs only by the position of the thoracic constriction. *Selenaspidopsis* is constricted between the mesothorax and prothorax and *Pseudoselenaspidus* is constricted between the mesothorax and metathorax. Both genera have intrasegmental line on abdominal segment 1, which is also present in some members of the *Selenaspidus* complex.

In this complex, *Entaspidiotus* and *Selenaspidus* are constricted between the mesothorax and metathorax, and *Schizentaspidus* is constricted between the mesothorax-metathorax and metathorax-abdominal segment 1. *Paraselenaspidus* is constricted between the prothorax and mesothorax but differs from *Selenaspidopsis* by having spur-like lobe 3 and lacking perivulvar pores; conversely, *Selenaspidopsis* has apically rounded lobe 3 and perivulvar pores.

*Duplaspidiotus*, *Pseudaonidia* and *Pseudotargionia* in the Pseudaonidina also have pronounced thoracic constriction between the prothorax and mesothorax. They have dorso-central reticulation on the pygidium which is lacking from *Selenaspidopsis*.

### *Selenaspidopsis browni* Nakahara, NEW SPECIES

Fig. 1

Slide-mounted adult female body longer than wide, 1335(745-1395)  $\mu$  long; prosoma 953(558-1067)  $\mu$  wide, anterior margin straight or slightly concave,

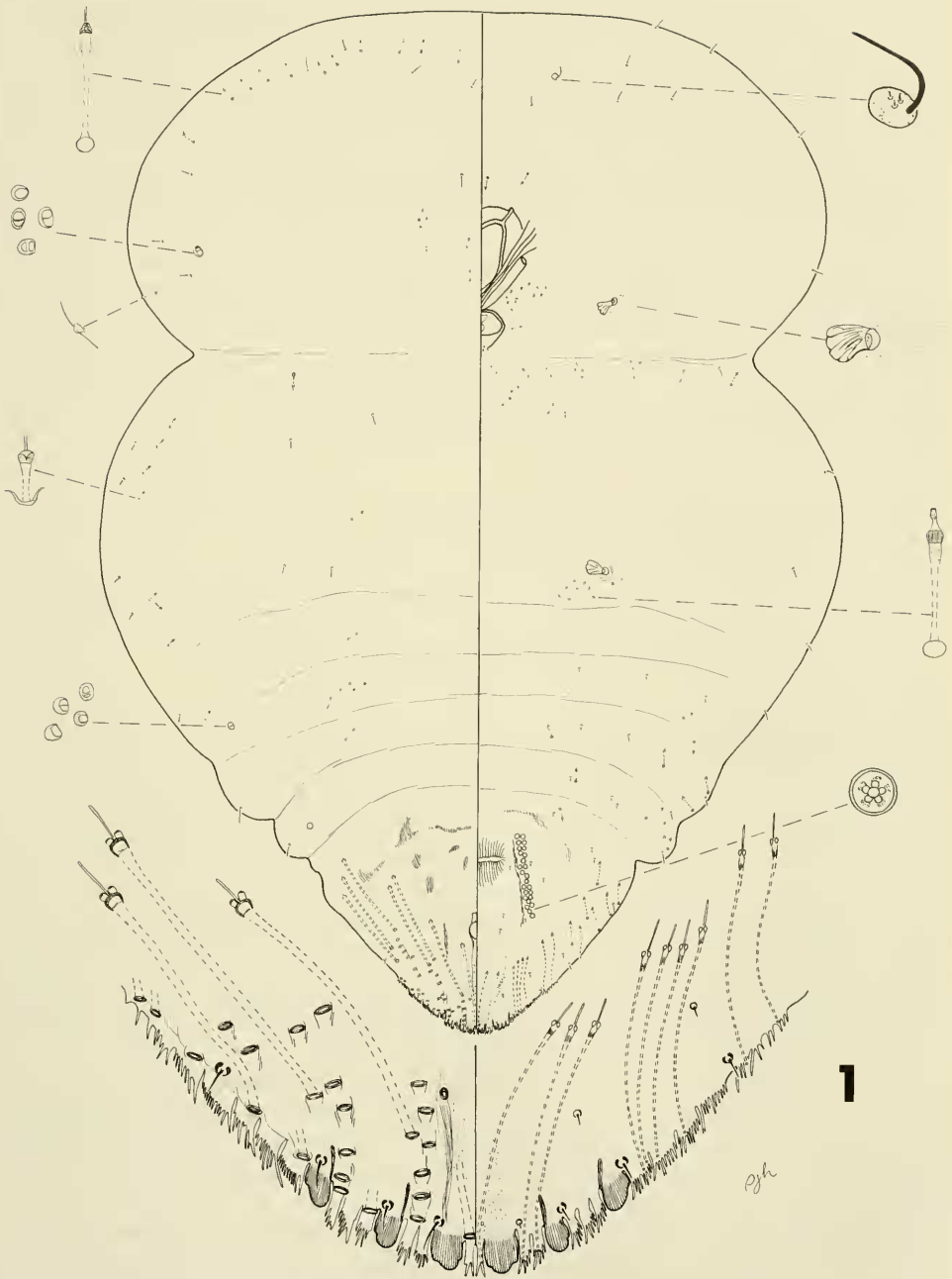


Fig. 1. *Selenaspidopsis browni*, dorsal and ventral aspects.

occasionally broadly rounded, lateral margin broadly rounded or partially straight; postsoma longer than prosoma, 972(568-999)  $\mu$  wide, broadly rounded laterally. Prothorax with 1 small marginal tubercle. Submarginal, dorsal cicatrices, simple or divided, 1 each on prothorax and abdominal segment 1 often larger than 1 on

segment 3. Microducts in marginal row on head with orifices not protruding or slightly protruding from derm as short, conical tubercles. Dorsal microducts few, medially over mouthparts, submedially on thorax and abdominal segments 1–3, shorter microducts submarginally on thorax and abdominal segment 1; ducts absent from abdominal segment 4, occasionally from segment 3. Ventral microducts in loose cluster laterad and anterior to mouthparts; along anterior margin of mesothorax, often more numerous in medial area; in cluster posterior of metathoracic spiracle; medially and submarginally on prepygidial abdominal segments.

Pygidium wider than long, broadly pointed apically. Median lobe wider than long or slightly longer than wide, separated by space less than its width, 1 notch on mesal and lateral margins; lobe 2 longer than wide, lateral margin with 1 notch or entire; lobe 3 longer than wide, lateral margin with 1 notch, axis of lobe slightly converging. Median lobe with basal sclerosis, longer than lobe; lobes 2 and 3 each with short paraphysis at mesal angle. Two plates between median lobes often bifurcate, occasionally simple; other plates fringed apically, 2 plates between median and lobe 2, 3 plates between lobes 2–3, 5–6 broad plates and few short, spinelike processes anterior to lobe 3. Dorsal and marginal macroducts 34–39(19–50) on each side: Dorsal macroducts mainly in 3–4 longitudinal rows, anterior ducts not distinctly longer than ducts nearer margin; between median lobe and lobe 2, 6(4–7) ducts in short, single or double row; between lobes 2 and 3, 10–13(4–13) ducts in irregular, diverging row; anterior to lobe 3, 8(4–13) ducts in irregular diverging row usually extending anteriorly to level of anal orifice or slightly more anteriorly, laterad a shorter row of 3–5(3–7) ducts or with 1–3 submarginal ducts; occasionally 1 submarginal duct on segment 4. Marginal macroducts 1 between median lobes; 1 duct between median lobe and lobe 2; 2 ducts between lobes 2 and 3; 4 ducts, occasionally 3 or 5, anterior to lobe 3; rarely 1 duct on segment 4. Microducts absent from dorsum, few submarginally on venter, long microducts arising from plates not seen between lobes 2 and 3 on holotype, present on paratypes. Anal orifice oval or elongate oval, positioned between center and apical one-third of pygidium. Vulva positioned in about basal one-third of pygidium; dermal striations posterior of vulva aligned longitudinally. Perivulvar pores 25–26(16–28) in 1–3 elongate lateral groups, 1–3 pores wide; rarely few pores anterior to lateral pores or supernumerary pores posterior to lateral pores. Dorsal scleroses short; 3 near base of pygidium, medial and submarginal scleroses transverse, submedial widened longitudinally; 3 short submedial scleroses posterior to basal scleroses; 1 transverse and 1 longitudinal scleroses aligned medially. Venter with 2 short, basal transverse scleroses; 1 elongate sclerosis extending anteriorly from submargin near base of lobe 2 to another slender sclerosis bordering lateral perivulvar pores.

Type material examined. — Adult female holotype (USNM type number 100417): MEXICO, Papantla, Veracruz, *Chamaedorea* leaf, 26-III-74, in quarantine at Laredo, D. A. Gutierrez, (Laredo 7211). Adult female paratypes 25(24 slides) intercepted at quarantine on *Chamaedorea* leaves at Laredo and San Antonio, Texas and Miami, Florida; MEXICO: 6-V-72, L. Beikman (San Antonio 3677); 2-VIII-72, J. A. Palmer (Laredo 4133); 6-IX-72, C. Parker (San Antonio 4343); 9-X-72, D. J. Provencher (Laredo 4510); 1-XI-72, A. V. Garrett (Laredo 4610); 5-III-73, C. Parker (San Antonio 5037); 6-III-73, C. Parker (San Antonio 5050); 11-IV-73, D. Johnston (San Antonio 5506); 3-VII-73, D. Johnston (San Antonio 5677); 5-VII-73, D. Johnston (San Antonio 6156); 2-IV-74, D. Johnston (San

Antonio 6793); 8-X-74, D. Johnston (San Antonio 7905); 17-X-74, R. Gaspari (San Antonio 7599); 12-I-75, D. Johnston (San Antonio 7993); 19-III-75, D. Johnston (San Antonio 8313); 27-V-75, D. Johnston (San Antonio 8669); 17-VI-75, D. Johnston (San Antonio 8791); 13-V-76, R. L. Haymond (Miami 13361); Arriaga, Chiapas, 19-XI-74, T. E. Johnson (Laredo 8546); Arriaga, Chiapas, 3-III-75, A. B. Garcia (Laredo 8545); Papantla, Veracruz, 26-XII-73, A. V. Garrett (Laredo 6581); Santiago Tuxtla, Veracruz, 21-V-73, T. E. Johnson (Laredo 5639). Depositories of paratypes: BM 2, CDA 1, HUS 1, FSCA 1, MNC 2, MNH 1, UCD 1, USNM 15, VPI 1.

Discussion.—The species differs from *S. mexicana* by having 19–50 macroducts on each side mostly in single, irregular, dorsal rows, row anterior to lobe 3 extending anteriorly to about level of anal orifice, and submarginal macroducts absent from segment 4 or rarely 1 present; whereas, *S. mexicana* has 77–116 macroducts on each side, row anterior to lobe 3 extends anteriorly to basal, submarginal scleritis and terminates in a cluster, and submarginal macroducts present on segment 4.

Etymology.—This species is named in honor of my dear friend, William J. N. Brown of Bellevue, Washington, in recognition of his contributions to the protection of U.S. agriculture from foreign plant pests as a former plant pathologist with the Plant Quarantine Division in Seattle.

***Selenaspidopsis mexicana* Nakahara, NEW SPECIES**

Fig. 2

Slide-mounted adult female body longer than wide, 976(1158–1725)  $\mu$  long; prosoma 703(840–1249)  $\mu$  wide, semilunar, anterior margin broadly rounded, occasionally partially straight, lateral margin rounded; postsoma longer than prosoma, 745(863–1271)  $\mu$  wide, usually slightly wider than prosoma, broadly rounded laterally. Small dermal tubercle marginally on prothorax. Submarginal cicatrices one each on prothorax and abdominal segment 1 larger than 1 on segment 3. Dorsal microducts few submedially on thorax and abdominal segments 1–3 or 4; shorter microducts submarginally on metathorax and abdominal segment 1. Marginal microducts with orifices protruding from derm as short, conical tubercles on head, thorax and abdominal segments 1–4. Ventral microducts few; laterad and anterior of mouthparts, submarginally along anterior margin of mesothorax, just posterior of posterior thoracic spiracle, submedially and submarginally on prepygidial abdominal segments.

Pygidium wider than long, rounded apically. Median lobes as wide as long, or slightly longer than wide, separated by space less than its width, 1 notch on lateral margin, mesal margin with 1 smaller notch or entire; lobe 2 longer than wide, lateral margin with 1 notch or entire; lobe 3 longer than wide or about as long as wide, lateral margin with 1 notch, axis of lobe slightly converging. Median lobe with basal scleritis longer than lobe; lobes 2 and 3 each with short paraphysis at mesal angle. Two plates between median lobes usually bifurcate; other plates apically fringed, slightly longer than lobes; 2 plates between median lobe and lobe 2, 3 plates between lobes 2–3, 7–9 broad plates and few short, spinelike processes anterior to lobe 3. Dorsal and marginal macroducts 85–89(77–116) on each side: Dorsal macroducts mainly in 4 longitudinal rows, anterior ducts shorter than those toward margin; between median lobe and lobe 2, 8(7–10) ducts in short, irregular double rows; between lobes 2–3, 15–19(18–25) ducts in single or double

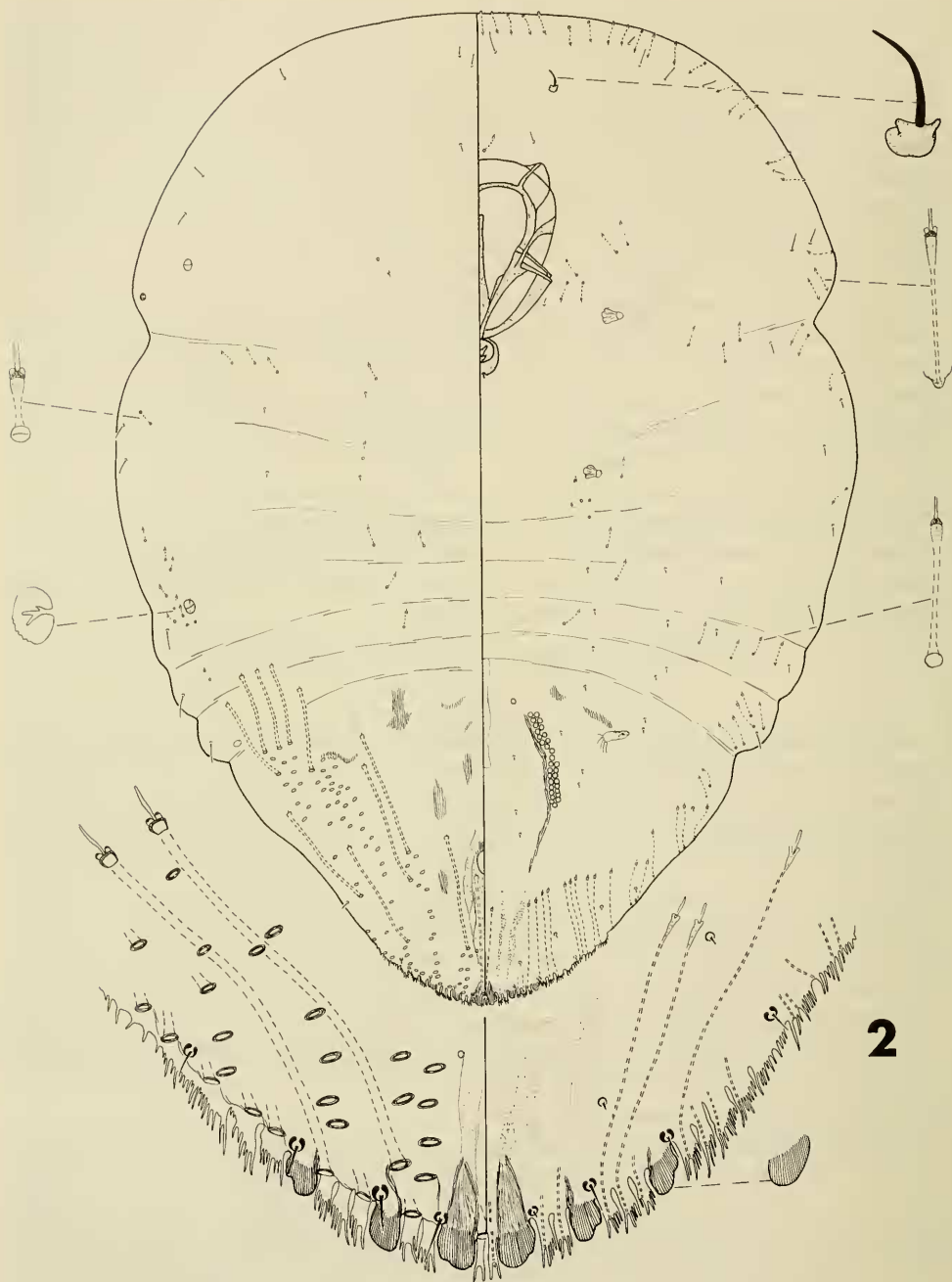


Fig. 2. *Selenaspidopsis mexicana*, dorsal and ventral aspects.

irregular row, usually in double row anteriorly; on fifth segment, 33(30-40) ducts in single or double irregular row extending anteriorly to basal, submarginal sclerosis, terminating in cluster; laterad, 20(14-30) ducts in single irregular row extending anteriorly to submargin of segment 4, terminating in submarginal cluster; occasionally 1 submarginal duct on segment 3. Marginal macroducts 1 between

median lobes, 1 between median lobe and lobe 2, 2 between lobes 2–3, 6(5–7) anterior to lobe 3. Microducts absent from dorsum; 3–4 short ventral ducts submarginally on fifth segment, long microducts arising from plates. Anal orifice oval, positioned between center and apical one-third of pygidium. Vulva positioned about basal one-third of pygidium between lateral perivulvar pore groups. Perivulvar pores 22–23(16–28) usually in elongate lateral group, 1–3 pores wide, occasionally in 2 groups separated by diameter of a pore; 1 or 2 pores occasionally anterior to lateral groups. Dorsal scleroses short; basal scleroses 3, medial transverse, submedial longitudinal, submarginal sigmoid; 2–3 submedial scleroses aligned posterior to basal scleroses; 1 transverse and 1 longitudinal scleroses aligned medially. Venter with 2 short, basal transverse scleroses; 1 elongate slender sclerosis extending anteriorly from submargin near base of lobe 2 to another slender sclerosis bordering lateral perivulvar pores.

Type material.—Adult female holotype (USNM type number 100418); MEXICO, Santiago Tuxtla, Veracruz, *Chamaedorea* leaf, 25-I-73, in quarantine at Laredo, A. V. Garrett (Laredo 5020). Paratypes 11 adult females on 11 slides, intercepted in quarantine on *Chamaedorea* leaves at Laredo and San Antonio, Texas. MEXICO: 20-IV-71, L. Beikman (San Antonio 1952); 5-I-72, C. Parker (San Antonio 3087); 16-V-72, D. W. DUEWALL (Laredo 3761); 18-II-74, D. J. Provencher (Laredo 6948); 2-IV-74, D. Johnston (Laredo 6793); Papantla, Veracruz, 5-I-74, A. V. Garrett (Laredo 6238); 14-I-74, D. J. Provencher (Laredo 6852); 18-II-74, D. J. Provencher (Laredo 6948, 6960); Santiago Tuxtla, Veracruz, 6-III-63, A. V. Garrett (Laredo 5238); 25-I-73, A. V. Garrett (Laredo 5019); Veracruz 27-III-74, C. R. Guettler (Laredo 7287). Depositories of paratypes: BM 1, CDA 1, FSCA 1, MNC 1, USMN 7.

Discussion.—The differences between *S. mexicana* and *S. browni* are discussed under *S. browni*.

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